



STRATEGIC **DATA** PROJECT

SDP FELLOWSHIP CAPSTONE REPORT

How Does Data Management Impact Practitioner Decision Making?: Illustrations from Three Case Studies

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SDP Fellowship Capstone Reports

SDP Fellows compose capstone reports to reflect the work that they led in their education agencies during the two-year program. The reports demonstrate both the impact fellows make and the role of SDP in supporting their growth as data strategists. Additionally, they provide recommendations to their host agency and will serve as guides to other agencies, future fellows, and researchers seeking to do similar work. *The views or opinions expressed in this report are those of the authors and do not necessarily reflect the views or position of SDP or the Center for Education Policy Research at Harvard University.*

I. Introduction

Each day within schools hundreds of thousands of bits of raw data are generated that, as theory and research demonstrate, impact student performance. Multiple academic journals such as *American Educational Research Journal*, *Educational Evaluation and Policy Analysis*, *Educational Research Journal*, *Review of Educational Research* and *Sociology of Education* publish scholarship that contributes to our understanding of how various classroom inputs, as well as social and cultural factors, might inhibit or enhance student learning. This body of research can act as a roadmap for districts that wish to use research and evaluation to drive school- and classroom-level improvements in student outcomes. However, these scholarly articles do not typically provide insight into the data management work that needs to happen to evaluate improvement efforts.

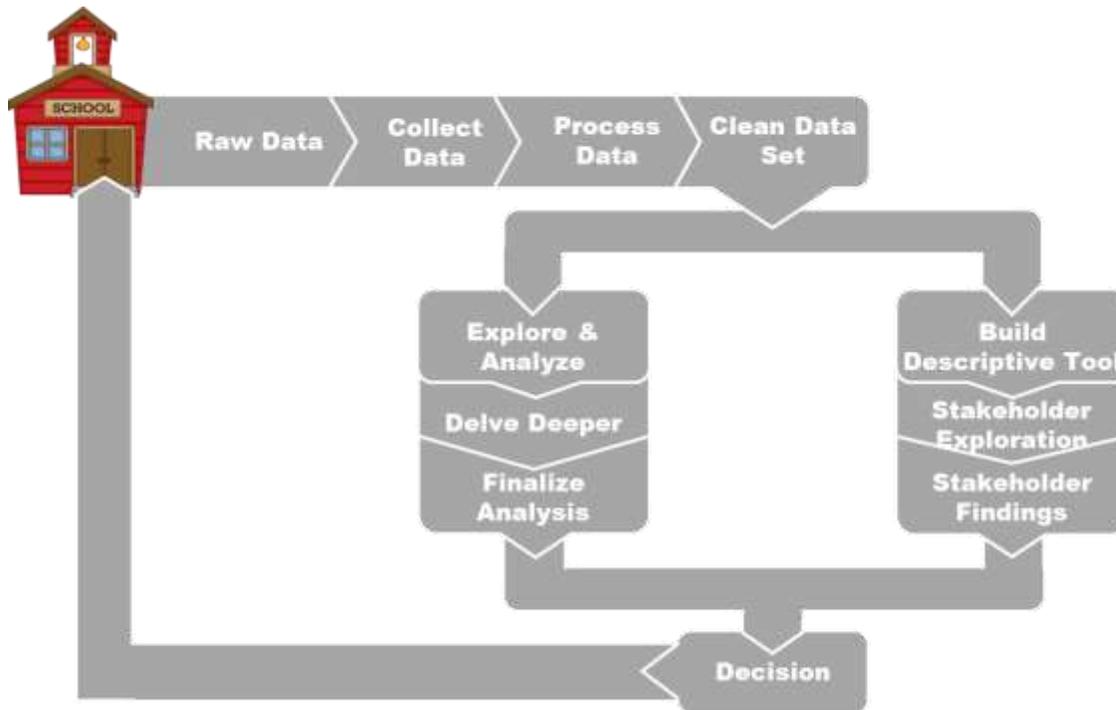
At the same time, funding agencies, states, and charter authorizers have increasingly demanded that school districts develop or adhere to specific performance goals and, more importantly, provide credible data that show each school's progress towards achieving those goals. In turn, schools have invested significant resources into establishing data systems to capture the data required by federal, state and local agencies. Yet these agencies rarely provide guidance on how schools and districts might implement into their daily routine the data management work necessary to attain valid and reliable data—data that is complete and accurate for all and consistent across observations.

The minimal amount of attention paid to data management work by funding agencies and educational research does not mean that the work is inconsequential. To the contrary, data management is crucial for using data to inform decisions. Proper data management ensures that the data provide an accurate picture of the school population. Inaccuracies in the data, or missing data, could prompt erroneous conclusions. Using existing research in the field, and case studies from three education agencies, this report helps to fill the void in accessible information on the various stages of data management and data analysis work that schools and districts must engage in for stakeholders to be able to use data as a trustworthy basis for making decisions that affect student learning.

There is no shortage of research attempting to aid school improvement efforts by shining the spotlight on different variables under schools' control that impact student performance. However, for schools to translate these findings into sustainable, successful practices, fairly extensive data management and data analysis processes must take place. For example, studies of teacher effectiveness (e.g. Gordan, Kane and Staiger 2006; Kane, Rockoff and Staiger 2006; Nye, Konstantopoulos and Hedges 2004; Palardy and Rumberger 2008; Rivkin, Hanushek and Kain 2005) provide empirical evidence that teachers vary substantially in their ability to increase student achievement. The findings suggest that

schools might increase student learning by increasing the effectiveness of their teaching forces. For schools to act on these findings in a manner that would provide a solid foundation for analysis, they would need to: identify the raw data pertaining to student-teacher linkages, classroom materials, teaching methods and the other indicators of teacher effectiveness they plan to target; figure out how to collect, store and process these raw data; and develop a method that allows district or school leaders to see how different aspects of their teachers' effectiveness change over the course of their improvement efforts. These data management and analysis tasks are necessary to attain valid and reliable data that, when incorporated into decision-making, lend additional credibility to final decisions. Without this data management and analysis work, stakeholders are forced to rely on their intuition to determine whether and where their efforts succeeded or failed. This guesswork has the unintended consequence of tying the validity of the new practice or program to the reputation of its leader. In turn, the program might be left vulnerable to the whims of enterprising individuals—from politicians to regional administrators—and make it difficult to gain widespread, continual support.

The following diagram displays the relevant data management and data analysis tasks and their relationships to decision making. The first four tabs at the top are the foundational work done to ensure the data are valid and reliable. The first tab, titled "raw data" encompasses the thousands of bits of raw data that impact student performance including all interactions, teaching materials, teaching methods, learning activities, signals of non-cognitive factors, artifacts of learning, and behavior incidents that take place in the school community.

Figure 1: The Data Management Life Cycle

The sheer quantity of potentially useful information generated by members of a school community over the course of a day defies human capacity for data entry. Therefore, school or district leaders must decide which pieces of raw data to collect. The second tab “collect data” draws attention to this task. According to scholarship geared towards social innovation (Skillern et al. 2007), this decision-making process should be guided by the organization’s theory of action or theory of change. For example, if the focus of a district is to increase student learning by fostering strong social ties, then the district would aim to standardize the collection of data regarding relationships and indicators of student learning. Data collection at all schools is also guided in part by federal, state and local mandates. Once the decision of which data to collect is made, schools and/or districts need to develop internal policies and practices to ensure that all of the data are being collected in a standardized and timely manner. In the first case study, Kate Czehut shares how a startup charter school network in New York City developed and implemented an internal process of data collection.

Data collection is one step in the first stage of data management. Once data are collected, they need to be cleaned and processed before they can be used as the basis of analysis. Tabs three and four of the diagram represent this cleaning and processing work. This first stage of data management is

essential because analyses conducted on incomplete datasets can lead to biased and inconsistent estimates, thus providing a foundation for decision-making that is more quicksand than cornerstone.

The second stage of data management is represented by the right and left sides of the diagram. The right side of the diagram, which starts with the “Build Descriptive Tool” tab, draws attention to work done to create or customize dashboards, gradebooks and attendance records and the time and attention that stakeholders spend with the resulting descriptive tools in order to inform their decision-making. The second case study by Maura Bonanni explains how Achievement First improved on its method of producing and using descriptive tools in decisions to promote or retain students. The left side of the diagram, beginning with the tab “Explore & Analyze,” reflects situations in which the desired outcome is less a visualization of the data and more a rigorous analysis of the data. For example, a superintendent might be weighing the pros and cons of a remediation program and want to know how students who have gone through the program have fared. These tabs acknowledge the fact that more sophisticated quantitative methods than descriptive statistics are needed to address this kind of counterfactual question to predict program impact.

Lastly, the diagram highlights the connection between stakeholder decisions and the day-to-day activities in schools. The third case study, by Brad Gunton, illustrates this stage by showing how data management at the district level can positively impact the paths that individual high school students take through high school.

II. Case Studies

A. Collecting Data at ROADS

1. Agency Profile

In December 2011, ROADS Charter High Schools existed solely as an audacious plan to launch a network of schools that focus on reinventing options for students who had been, as ROADS’ visionary Cami Anderson likes to say, “derailed by the system.” (ROADS formally stands for Reinventing Options for Adolescents Deserving Success.) ROADS’ State University of New York-authorized charters called for the schools to enroll any young person age 15-17 who had earned fewer than one-quarter of the credits needed to graduate from high school regardless of where he or she was in the educational system; give preference to those who were court-involved, homeless, behind grade cohort, dropouts, or in Child Protective Services; and provide all with opportunities to grow academically, professionally and personally. The first enrollment application became available in February 2012 and by June, ROADS had

received 1,400-plus applications for 300 available seats. Two months later, two ROADS transfer high schools opened their doors to each serve 150 youth in an NYC neighborhood with a high rate of child poverty. Now in the third year of operation, the ROADS network consists of roughly 450 students and 90 full-time employees.

2. Policy/Research Question

From ROADS' inception there has been a tremendous hunger and sense of urgency to dig into data to learn as much as possible about ROADS' student population in order to make evidence-based decisions on where to devote time and resources. There was just one problem: not all pieces of data were being collected for all students and those being collected were not all stored in a way that provided a solid foundation for network-wide decisions. Given the importance of data collection for data analysis, the question became: How could ROADS create a process to ensure that important student data are collected and entered into the student information system in a standardized manner at the school level?

This case study focuses on the task of data collection in the data management process laid out in Part I. The act of collecting data is the crucial first step allowing for data-driven decision-making. Analyses that do not account for missing data can produce biased and inconsistent estimates. When that occurs, the foundation on which decisions are to be made is no more solid than a best guess.

There are three important parts to data collection. First, there is the decision of **which data to collect**. This determines the scope of the questions that the data can address. For example, if program participation is not tracked, then little insight can be gained into the impact of program participation on individual outcomes. Next is the decision of **whose data to collect**. Too frequently it appears that data are only collected for certain groups of students, which then deprives stakeholders of the opportunity for direct comparisons across student groups. When this type of situation occurs, the data might, for example, show that students in a particular intervention program scored, on average, five points higher on the post-program test than on the pre-program test. However, without the test scores of students who did not participate in that intervention, there would be no way to gauge the relative benefits of that intervention on student learning.

The final step is **how to collect data**. The desired outcome is data points that are *standardized*, *transparent* and *comprehensive*. Regardless of the format in which data points are obtained, they all need to be coded for analysis. Processing and cleaning data is much more efficient if the data is *standardized*, and have been coded in a clear, unambiguous and pertinent way. In order for them to be

standardized the coding must be *transparent*, such that anyone who uses the data interprets it in the same way. When data are standard and transparent it is also important to ensure that they are *comprehensive* so they continue to capture all relevant information. For example, a flexible and efficient way of entering responses to “yes” or “no” questions is to only record responses if they are positive. Yet this method is not comprehensive because missing responses in the database might indicate either responses of “no” or responses that respondents left unanswered. A standardized, transparent and comprehensive coding of “yes” or “no” questions would provide only one option for storing positive, negative and missing responses.

The next subsection outlines the steps ROADS took to develop and implement a formal process to ensure that important student data are collected and entered in a standardized, transparent and comprehensive way into the student information system at the school level.

3. Project Scope

The project was to devise and implement a sustainable process to collect data that would result in a standardized, transparent and comprehensive database. To achieve this result, central offices typically produce a manual explaining where to find any necessary information, how to translate it or code it in the database, and where to enter it in the database. This, along with limiting the type of information that can be entered, aids in standardizing a database and in creating shared understanding around each data point. Instead, ROADS achieved this goal in just three months by slightly modifying and implementing a successful process developed by Achievement First (AF).

As a growing charter network in the NYC area with a history of data-driven instruction and a user of Infinite Campus, the student information system that ROADS was in the process of purchasing, AF was an ideal partner agency for ROADS to tap for inspiration. AF’s data collection process, which they call the “monthly data close,” was developed to ensure that specific student data are collected and entered into Infinite Campus each month at each of their schools. In addition to producing a how-to guide like so many central offices, AF’s monthly data close process differs from the typical process in two important ways. First, AF developed a tool that calculates the percentage of missing data at each school and highlights which pieces of information are missing for each student. ROADS customized this tool by including data points relevant to ROADS’ dashboards. Figure 1 below displays one part of this tool which, as the Figure illustrates, is simply a formatted Excel workbook. By highlighting where information is missing, the workbook allows school staff to focus on the end goal: collecting the missing information and entering it into the system.

Figure 1: Monthly Data Close Tool. Each student is represented by a row. Each column is a different data point that is essential for ROADS to collect. The cells in red highlight missing data. The last two columns of the spreadsheet, shown below in blue, tell the number of data points missing for each student and provide an overall picture of the completeness of each student’s data.

4-year Grad	FRL S	Missing	Complete/Incomplete
2016		1	Incomplete
2015		8	Incomplete
2017 F		1	Incomplete
2016 F		0	Complete
2014		1	Incomplete
2016 S		0	Complete
2016 F		0	Complete
2015 R		1	Incomplete
2015 F		1	Incomplete
2016 F		0	Complete
2016		9	Incomplete
2017		2	Incomplete
2015 F		1	Incomplete
2017 F		1	Incomplete
2015		10	Incomplete
2017		4	Incomplete
2017		2	Incomplete

The other benefit of AF’s monthly data close is that it builds time into the calendar for school staff to collect and enter data. Each month the AF central office sends this tool to the Operations staff at all AF schools. The Operations staff then has five business days to enter the missing data into the system before the network “closes” that month’s data and turns it over to the data analytics team to use for monthly reporting purposes.

While AF’s process itself is straightforward, and the actual tool is relatively easy to produce and distribute, implementing a new process that specifically calls out gaps in essential work across schools and a network is not. Therefore, the next step for ROADS to put AF’s process into action was to clarify roles regarding data ownership and responsibility at both the network and schools. As a start-up organization, at ROADS everyone did a little of everything, including data entry and verification. While this “all hands on deck” mentality is essential to a start-up, the unintended consequence was that formal roles regarding data were murky. To clarify roles and gain support for implementing AF’s monthly data close at ROADS, the Research, Evaluation and Data team in the ROADS network first engaged with network stakeholders to explain the new process, its purpose, and to solicit feedback and advice. Aligning perspectives at the network level was essential to ensure that future communication about data collection would be consistent across network staff. Once we had the support and backing of network stakeholders, we began to engage school-based stakeholders in discussions. Most importantly, during these discussions we made sure to highlight the ways in which the monthly data close would

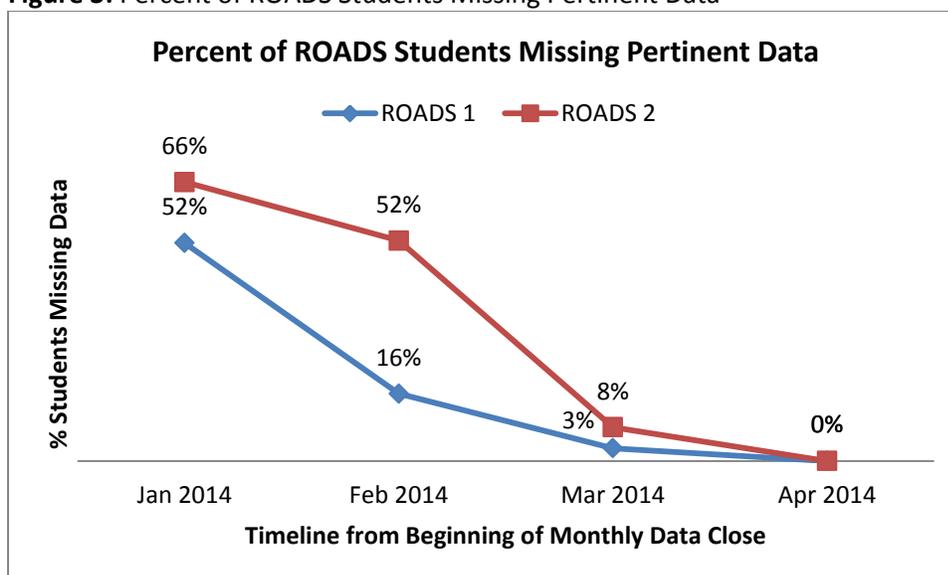
benefit various stakeholder interests. For example, we introduced the monthly data close to principals as the path towards realizing their goal of having real-time, useful data reports. For directors of operations, we explained how the monthly data close would eliminate the stress of completing year-end compliance reporting because all of the data needed would already be in the system. In this way, we built staff investment in the process and attempted to limit compliance-driven behaviors.

Three other strategies also contributed to the success of implementing a monthly data close. First, we started small. The amount of data included in the initial monthly data close spreadsheet was limited to allow school staff to ease into the process. Second, we built time into the Research, Evaluation and Data team's schedule to allow one team member to devote one day at each school during the week of the data close to answer questions in person. Lastly, we celebrated each school's success loudly and enthusiastically over email and through events.

4. Results/Impact

Figure 3 below illustrates the greatest outcome of this project: a standardized, transparent and comprehensive database. In January 2014 when we launched the monthly data close, 66% of students at ROADS 2 and 52% of students at ROADS 1 were missing at least one pertinent piece of information. In three months, the monthly data close had largely eradicated the issue of missing data. By April, no student was missing the student information identified in the data close workbook. A complete and standardized database is the greatest outcome of this project.

Figure 3: Percent of ROADS Students Missing Pertinent Data



The monthly data close has also had two additional benefits. First, the project has begun to clarify roles and responsibilities around student data collection and entry at the school and network level. School-based operations staff now take more ownership of their students' data. Second, the project has built time and structure into data collection and data reporting at ROADS. Prior to the monthly data close, data collection and entry requests came on an ad hoc basis, usually with immediate deadlines. This caused frustration all around: stakeholders could not get the answers and evidence they wanted on a timely basis and staff were harried to produce on unrealistic timelines. The monthly data close clarifies the timeline for collecting and entering data as well as the schedule for monthly reports. Now, reporting is done on a monthly basis after the data close.

Developing a process to ensure that student data are collected and entered into our databases in a standardized manner opens the door for using data to make evidence-based decisions. ROADS is confident that by rolling out data reports that are used in the school by school staff to track progress towards our goals and make decisions on actions that effect our students, we will increase incentives to complete the data collection and data entry work.

The next case study addresses the second stage of data management by focusing on how data processing can improve a district's ability to deliver practical and useful data tools for stakeholders.

B. Creating User Friendly Tools by Improving Data Infrastructure at Achievement First

If data collection practices form the foundation of district-level analyses and tools, data storage solutions comprise the framing. How a district chooses to store and structure its data in many ways determines the impact of a tool or analysis. If data storage decisions are made without a deep understanding of and empathy for end-user needs, the resulting structure is unlikely to deliver tools or analyses that are practically useful for schools.

1. Agency Profile

The mission of Achievement First (AF) is to deliver on the promise of equal educational opportunity for all of America's children. We believe that all children, regardless of race or economic status, can succeed if they have access to a great education. Achievement First schools provide all of our students with the academic and character skills they need to graduate from top colleges, to succeed in a competitive world and to serve as the next generation of leaders in our communities.

Achievement First aims to create public charter schools that close the urban-suburban achievement gap, while also looking to partner with other like-minded, reform-oriented organizations and traditional school districts to maximize our collective impact. Our theory of change is that by creating the equivalent of an urban public school "district," Achievement First can serve as proof that closing the urban-suburban achievement gap is possible at district scale and inspire broader reform. Achievement First is focused on continuing to close the achievement gap and serving as an example for other public charter schools and traditional public school districts. We will continue our work until every child is given access to a great education and enjoys the real freedom that flows from that opportunity.

2. Policy/Research Question

Traditional districts have long said that the real problem is not how to create a singular successful school but how to create a district of successful schools. By 2017, AF plans to operate 38 schools serving over 12,000 students (when fully grown, these schools will be able to serve nearly 16,000 students). This will make AF's total student body larger than that of 95% of districts and serve more students eligible for Free and Reduced Price Lunch (FRPL) than 97% of districts.

In order to be a proof point, a "district" of this scale must be financially, humanly, and institutionally sustainable. This includes our human and technical systems for capturing, analyzing, and sharing data. We believe that the smart use of data will dramatically increase the effectiveness of our teachers and school leaders and that the strategic use of systems will amplify the impact of our people. We accomplish this by:

1. Ensuring AF has accurate, timely, and insightful data to make strong decisions focused on the increasing student achievement; and
2. Ensuring AF has the infrastructure, systems (process + technology), and support in place to make us more effective and more efficient so that we can scale successfully.

Until recently, AF's data capture systems and infrastructure limited our ability to meet the needs of key organizational decision makers. Data reports and tools were static, standardized, and siloed, excel-based documents that were released to schools on fixed release dates. The resources required to create these data reports and tools were significant, and the creation processes were far from scalable. More painful still was the feedback from schools. Although these tools were intended to support our schools,

we knew that most schools continued to create their own separate reports and processes out of frustration with the district offerings.

While this was difficult feedback to receive, it spurred us into action and pushed us to begin answering the question: How could we collect, store, analyze, and share information in higher impact, more efficient ways? Here we will focus on AF's Promotion in Doubt (PID) Policy, and how an improved requirements gathering process and strategic investments in improved data capture and data management systems allowed us to create data tools that better support our schools in our mission of being both an excellence and equity exemplar.

3. Project Scope and Timeline

Context: AF's Promotional Standards and Goals

In an effort to eliminate "social promotion" and standardize promotional criteria across the network, AF implemented a district-wide promotion and retention policy for K–12 students in 2012–2013. Our mandatory promotional criteria state that a school must consider any student who fails to meet any of the benchmarks for the following criteria to be at risk of non-promotion: test scores, attendance, course grades, and credit accumulation. After agreeing on the promotional standards (see Appendix A.1 for detailed standards), we developed a set of guiding principles and corresponding project goals.

Promotion at AF Means Something: In order to ensure that our scholars are ready for the rigors of college, AF schools endeavor to never "socially promote." That means generally speaking, students are not promoted to the next grade simply because they are old enough to be in that grade.

Goal: 90% + of students who do not meet promotional criteria are retained.

AF Must Serve the Highest Need Scholars: At AF, our mission is to serve all scholars. We know that when a scholar is retained, he/she is more at-risk to leave the school. Given this reality, we work extremely hard to partner with scholars and families so that we do not have to non-promote and that when we do, we are extremely explicit and intentional about communicating why non-promotion will ultimately be in the best interests of this scholar.

Goal: Withdrawal rates for scholars who are not promoted are the same as the withdrawal rates for scholars who advance to the next grade (~5%).

Ensuring Scholars Meet Promotional Standards is Our Responsibility: In order to maintain rigorous promotional standards, each school has a responsibility to ensure that quality core instruction is happening, and to offer strong intervention programs for all students in danger of non-promotion. Given the troubling statistics for scholars that are significantly over-age in their grade, targeted and intensive intervention plans are created for any scholar who has been retained as we aggressively seek to avoid double retentions.

Goal: Fewer than 10% of scholars do not meet promotional criteria.

PID Version 1.0: Failure to Launch

To equip schools to monitor scholars throughout the year, we needed to develop PID data tools that would support this new process. After several brief conversations with schools, we had gathered a set of requirements which suggested we needed to create a set of reports that could:

1. Bring together key data elements (i.e., the promotional criteria) in a single report;
2. Tier each student based on the likelihood of their meeting promotional criteria (e.g., No Concern, Low Concern, Med Concern, High Concern, Must Retain); and
3. Be produced slightly in advance of report card nights so PID process owners at each school could prepare for parent and scholar conversations.

At the end of the 2012–13 school year, we learned that despite meeting the above requirements, only ten percent of our schools were actively using these new reports. While most schools were attempting to carry out the PID process, we knew that because they had not been using the reports, overall implementation of the policy had been inconsistent: some schools were not applying the promotional criteria appropriately, while other schools were not able to identify high concern students, and therefore schools were unable to provide the appropriate interventions or prepare students and families for the possibility of retention.

Given these challenges, it was disappointing but not unexpected when an analysis revealed we had fallen far short of our goals. As Figure 1 shows, promotional criteria were not applied consistently and therefore continued to have little meaning; some schools retained fewer than 20% of the scholars who did not meet the criteria. Further, as shown in Figure 2, scholars recommended for retention continued to withdraw from AF schools at significantly higher rates than the network average of 5%.

Rank	School	% of Students Not Meeting Promotional Criteria
1	AF Endeavor Elementary	80%
2	AF Brooklyn High School	64%
3	AF Hartford High School	63%
4	AF Endeavor Middle School	63%
19	AF Hartford Middle School	19%
20	Amistad Academy Middle School	18%
21	Amistad Academy Elementary School	16%
22	Elm City College Prep Middle School	13%

Figure 1: 2012-2013 Promotional Criteria Consistency

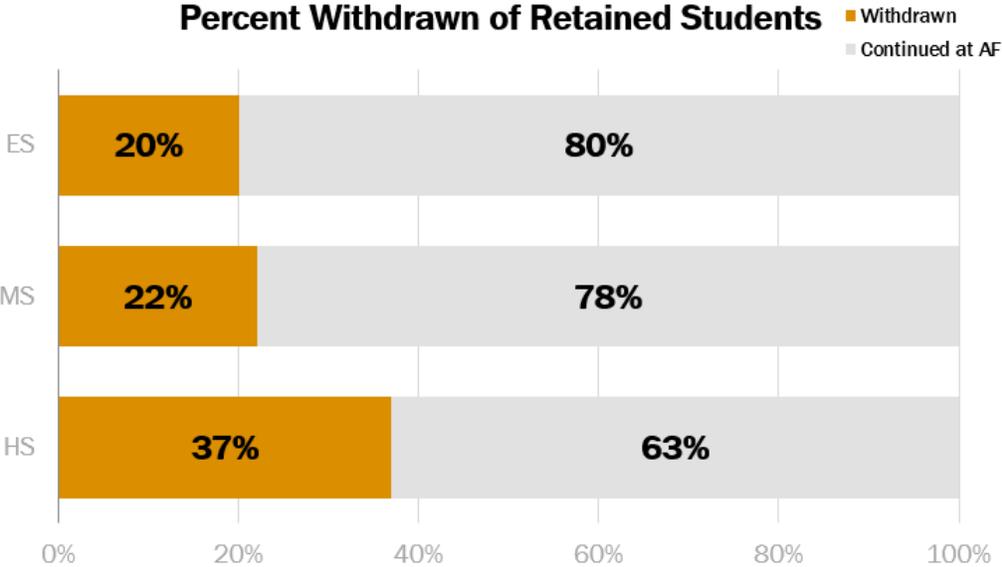


Figure 2: 2012-2013 Withdrawal Rates for Students Recommended for Retention

PID Version 2.0: Understanding & Addressing User Needs

Given the organizational importance of the PID process, AF committed to identifying and addressing the issues that we experienced during the first year of implementation throughout the 2013–

14 school year. Given our initial missteps, we knew we needed a more school-centric, iterative approach to developing these tools. The agreed upon timeline and phases of work were:

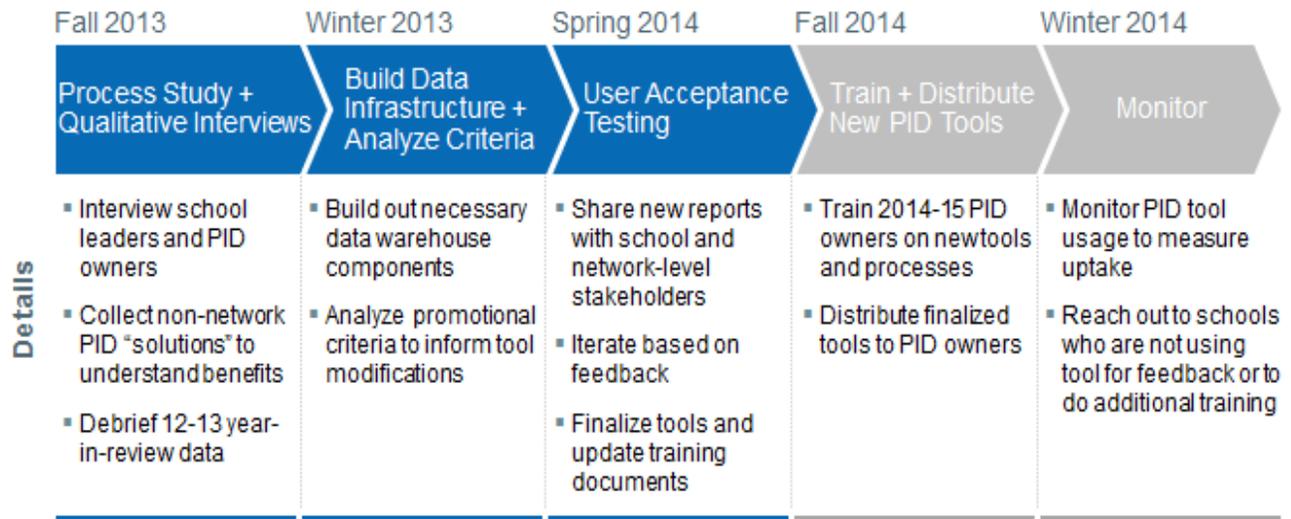


Figure 3: Project Phases and Timeline

We designed the project to surface and clarify end-user needs far better than we had prior to building the PID Version 1.0 reports. Because so many schools had built alternate PID processes, we began by asking schools to send us examples of the reports they had created. After combing through over 20 different sets of reports, we were able to identify common needs and use those as a jumping off point for our first round of qualitative interviews. While we hoped that these initial interviews would result in a robust set of requirements, we had also learned that our process and timeline needed to allow for feedback and iteration. We planned for a second round of input to take place while we were building out our data infrastructure to allow us to get additional input from schools and refine our plans before they were too far along.

4. Results / Impact

We will not be able to definitively assess the success of the improved PID tools and processes until the conclusion of the 2014–15 school year. The 2013–14 school year has been dedicated to better understanding stakeholder needs and developing our data infrastructure in support of those requirements. These technical investments, coupled with our deeper understanding of school needs, have allowed us to create a new set of tools that stakeholders ranging from school-based PID owners to regional superintendents have responded to with overwhelming enthusiasm.

Lessons Learned & Data Infrastructure Impact

After speaking with over 30 school-based school leaders and PID-process owners, we found nearly all the feedback fell into one of two categories:

1. Reports need to be on-demand and high-stakes data must be current

While our initial requirements indicated that the PID tool would work if it was published on a trimester or quarter basis, static reports were insufficient in practice. Although all schools began each year intending to have key family engagement meetings on the same days, over the course of the year, unforeseen circumstances such as snow days or scheduling conflicts with co-located schools meant family engagement nights shifted. As timelines shifted, so did the corresponding data entry deadlines. Furthermore, some schools simply wanted to have conversations with parents more regularly or wanted more prep-time for family conversations, while others wanted to give teachers as much time to enter grades as possible before looking at final PID data for a trimester or quarter.

Complicating the issue further was our approach to collecting certain types of promotional indicator data. We relied heavily on Microsoft Excel spreadsheets as data collection tools. This simply was not a scalable approach—data management and cleaning were labor-intensive, tedious tasks. This process also meant schools could only see the data they had submitted to the network in reports, even if they had more current data at the school site. For example, the initial Elementary School PID reports were produced every trimester to align with the family engagement nights. However, F&P data—a key promotional indicator measuring elementary reading ability—is conducted during five windows over the course of the year, while the network collected and cleaned the data at only three points during the year. This meant a school's PID report often had out-of-date information and might incorrectly categorize students. Given the stakes of the conversations with parents, schools need current, accurate information on hand. We needed to create nimble, cloud-based data capture tools if we wanted our PID reports to have relevant data and be more useful to schools.

2. We must enable customization or explain (and gain buy-in for) standardization

Although there are many shared practices that are common across all AF schools, we do allow for a significant level of school autonomy. The initial PID process and supporting tools were not built to accommodate the significant differences across schools. For example, while we were in agreement that failing courses should be included as a promotional consideration, our schools

do not share course catalogs or use the same approach for calculating grades, and the first iteration of the report did not reflect those differences. Consequently, schools found discrepancies in grade calculations and often disagreed with the courses that were included in the failing courses indicator. The new version needed to accommodate these differences and allow schools to tailor their results.

Many schools also shared that they found the promotional criteria to be either too lax or too stringent. While network leadership and regional superintendents had agreed on and communicated the new promotional criteria to schools, they had not sufficiently engaged principals and built buy-in for the new policy. Although schools were requesting a technical fix—customization of promotional criteria—the real solution was to help them understand the need for consistent promotion processes across the network. We also decided to provide a granular overall PID indicator to allow schools to triage their students in a more targeted manner. Schools with high numbers of PID students could zero in on the most severe cases or target interventions to support struggling students, and schools with low numbers of PID students could still see which students were weakest and support them accordingly.

All of these new requirements were then translated into a set of report design and data infrastructure adjustments that we began implementing during the 2013–14 school year:

- Develop a data warehouse that stores promotional criteria, refreshes them on a nightly basis, and structures them to feed directly into the Tableau reporting solution
- Create flexible, cloud-based data collection tool that feeds directly into the warehouse to ensure information is current
- Apply robust data validation to all data collection tools to limit the need for data cleaning
- Structure the PID tools to allow for customization where necessary and to enable the triaging of students based on various promotional criteria
- Build a sense of accountability within the regional superintendent cohort so that they are equipped to advocate for and enforce the network-wide promotional criteria

Initial Results

After implementing the above changes, we produced a revised set of PID tools and asked school-based PID owners and network support members to demo them in advance of our official launch during the 2014-15 school year. Feedback on the tools has been extremely positive, and after an initial

round of iteration and refinement, we are expecting all 29 schools to use the network-provided tools next year. While the re-build of the tool involved significant technical investments, we were able to build a live tool that will not require any maintenance during the school year (see Appendix A.2 for screenshots of the new tool). We also anticipate these investments will benefit many future non-PID projects.

Excluding data collection and cleaning, the original PID tool took over 30 hours to create each cycle. At seven cycles per year (three ES/MS and four HS), we were spending over 210 network hours alone on the PID production process. Additionally, all but two schools were also creating a set of reports on their own. Most schools indicated they were spending 20-30 hours per cycle on these individually-developed reports. In all, we expect to save roughly 1,000 hours annually across the network through the adoption of this new tool. These are the types of process improvements that AF must realize to become financially, humanly, and institutionally sustainable and a proof point for other districts.

More importantly are the results that we are hoping to see in the spring of 2015 for our scholars. As more schools adopt the improved PID tools, we anticipate they will be able to intervene faster, speak with parents sooner, and ultimately reduce the number of scholars who are not meeting promotional criteria. And for those scholars who do not meet promotional criteria, we hope these tools give schools the runway to be explicit and intentional about communicating with families why a non-promotion—while challenging—will ultimately be in the best interests of a scholar.

C. Making Decisions at New Visions for Public Schools

1. Agency Profile

New Visions for Public Schools is a not-for-profit organization dedicated to radically disrupting the cycle of poverty in New York City by redefining education expectations and outcomes through improving student achievement and resilience. We've been involved in New York City since 1989, having opened more than 100 small public high schools throughout the City. Since 2007, we have been a Partnership Support Organization, with a formal relationship with the NYC Department of Education to manage a network of 80 high schools. In 2011, we became a Charter Management Organization as well, growing a network that currently includes six high schools. In total, New Visions is responsible for the success of 46,609 students throughout our 86 schools, the vast majority of whom are in Grades 9–12.

Within New Visions, the Research and Organizational Learning Unit supports both the charter and the district schools by analyzing student performance data and supporting our schools to make intentional decisions on the basis of those data. Fundamentally, we believe that with the right data, at

the right time, and in the right hands, a student’s trajectory through school can radically alter depending on how they take advantage of opportunities for growth and advancement. We ensure that the data we collect and analyze is used to support students’ progress through high school and into their post-secondary careers.

2. Policy/Research Question

While New Visions for Public Schools has been successful at graduating high needs students at above the City average, a closer look at our last few graduating classes reveals that students are still failing to graduate despite showing academic promise. As just one example: 5,259 students in our Class of 2013 passed all of their freshmen year classes, but only 86% of those students graduated in four years. That leaves 713 non-graduates, *despite passing every class their freshman year*. These are not disengaged students, who do not show up to school or come in so far behind grade level that they are unable to pass any of their classes; instead, they are students who fall through the cracks at some point in their high school careers. Looking at other metrics, such as attendance, 8th grade performance and state tests, we see a similar pattern: students who show academic promise but are not able to follow through to graduation and college readiness. For these students, the failure is not that we have no way to reach them; it is that we do not apply ourselves systematically, intentionally, and consistently, and so we allow small problems to grow, eventually blocking students from graduating on time.

Why do we see this variation, and how can a district support schools to make timely decisions on individual students? The school calendar lends itself to strategic data conversations at different points in the year. Student scheduling periods generally occur three times a year, as do Regents¹ exam administrations; other key data are generated daily, such as attendance and student grades. But even at the scale of thousands of absences a day, capturing and organizing the relevant data—about the student as well as the school’s response—must happen quickly enough so that we can support our schools as they support our students. The key is a data management system that is automated, collaborative, and accessible to all users.

3. Project Scope and Timeline

If the missed opportunities in a school result from a lack of intentionality, what exactly are the opportunities being missed? There are many key systems within a school that impact opportunities for

¹ In New York, students need to pass five Regents exams—ELA, Math, Science, Global Studies, US History—to be eligible for graduation. These exams are generally taken during the first three years of high school.

student growth, from budgeting to human capacity to parent engagement. Here, we will focus on one: student programming.

- **Problem:** Student programs are not necessarily driven by a student's past performance and current needs, meaning that a student may not be scheduled for the combination of courses most likely to either help them get back on track or push them to their top level of performance.
- **Desired Outcome:** Every student is programmed for their highest-priority credits, whether that means getting back on track, preparing to retake an exam, taking advanced courses, or a combination thereof.

Both the human system and data system need to act in concert for the desired outcome to be reached. The human system identifies which staff are involved, both at the school and at the district, and what their level of involvement is. For example, school aides may be involved in preliminary attendance issues, but responsibility for action may shift to attendance teachers or school leaders as a problem escalates. Similarly, district staff should have a window into the school's data but should only intervene when the school needs additional support. In every case, the lines of responsibility and protocol for action triggered by the data should be clear.

The focus in this report is on the accompanying data system that moves the human system into action. While the data needed to operate the different systems may vary, the aim of the data system remains the same:

Provide immediate, accurate and comprehensive data to the right people, in the right form, at the right time, allowing them to make evidence-based decisions to seize every opportunity to improve students' progress.

There are several steps involved in meeting this objective, including processing the data and creating a tool accessible to users. First, however, it is essential to define the data scope of the project. Project leads should seek to answer the following questions:

- What is the opportunity for student progress?
- Who is involved, and what is their responsibility?
- What data do they need to be successful?

- When do they need it?
- In what form do they need it?
- How will they use it?
- How will we monitor the process and evaluate its success?

In this student programming case study example, we defined the scope as follows:

a. What is the opportunity for student progress?

Each term, students are programmed for seven or more credit-bearing classes. The opportunity exists to recover any ground previously lost, as well as to push students to go beyond basic requirements and prepare for rigorous post-secondary work. Further, students can be programmed to match the student to the teachers and circumstances that will most likely lead to success.

b. Who is involved, and what is their responsibility?

At the school level, the responsibility for programming often falls to the guidance counselors and school programmers. However, the responsibility for optimally programming students is usually not explicitly defined, because the success of a student's program relative to that student's need or potential is rarely measured. Most often, counselors are responsible for determining students' schedules, and programmers are responsible for implementing them.

School leaders are generally not primarily involved with student programming; however, it is their responsibility to oversee the work of the counselors and programmers. The counselors' determination of student need should be transparent and justifiable, as should be the decisions of the programmers on how to schedule students. As needed, school leaders should be ready to shift resources within a school to help programmers optimize student programs.

The district can play an additional oversight role and directly support counselors and programmers when there is a capacity need at a school. Determining preliminary credit needs can be automated by the district and provided to each counselor, and student programs can be evaluated by the district with the purpose of identifying additional possibilities for improvement. Again, the transparency of the data and the decisions made from it allows all stakeholders to work together and ensure all programming decisions are made intentionally.

c. What data do they need to be successful?

At the most basic level, we need to know three things:

- What has a student done so far, in terms of credits earned and exams passed? In both cases, we need the same level of granularity as defines the graduation requirements.
- What is a student aiming for? In the case of having differing graduation requirements for advanced diploma types, what goal are we supporting a student towards?
- How does a school expect a student to progress towards that goal? Each school may have a different sequencing; entering sophomore year without any social studies credits may trigger an alarm in one school but be par for the course in another.

Knowing the three items above are essential for intentional programming. If possible though, additional data could provide a truly optimized student program. For example:

- What was the student's past experience with teachers in their current schedule?
- If the student is expected to retake a Regents exam this semester, have they been in prep courses before, and what was their experience?
- Has the student's past performance varied by the time of day a class is?

d. When do they need it?

A traditional semester school programs two times during the school year, then a third time for the summer. Other schools may be annualized, or may be divided into trimesters or quarters. Whatever the structure, schools need to know students' programming needs almost immediately upon the conclusion of the previous term, giving them as much time as possible to create student programs.

Because there is a tight window between one term and the next, a prospective analysis can be done about a month before a term begins. Using students' marking period grades and our understanding of the relationship between those grades and final grades—a relationship that likely varies by teacher—we can estimate the likely need distribution of the next term. For example, if a certain number of students are failing a government class in the Fall semester, we may need to offer an extra section in the Spring. This high level analysis can solve some structural questions ahead of time, allowing us to slot students in once the final grades are available.

The reality is that programming is complicated and messy, and student programs may change frequently at the start of the term. Therefore, the analysis comparing student programs to student need must be updated daily at the beginning of a term, allowing for continued evidence-based refining.

e. In what form do they need it?

Data need to be formatted at the level of action. Knowing only a student’s total social studies credits is useless if the graduation requirements make more granular distinctions, such as US History versus Global History. If a student is retaking a course or exam, their full history of attempts needs to be available alongside their most recent endeavors, otherwise a student could easily be placed on the same path that was previously unsuccessful without any modifications made.

Regarding tools—these need to be flexible enough to accommodate school staff working at different levels and with different skill sets. Ideally, people working with student data will be comfortable with spreadsheets or similar programs. These tools allow for student-level analyses and a quick way to filter, sort and view student groups, and they are also very customizable by the user. Adding a visual dashboard allows for school leaders and district staff to quickly determine where they should focus.

f. How will they use it?

Counselors and programmers will use the data to develop a student’s ideal program, immediately surface gaps between the actual and ideal programs, as well as to identify areas where a student might be over-credited. School leaders and district staff will also view these gaps and determine if there is a need to alter school structures—creating additional credit opportunities for students, for example—to meet the students’ needs. When programmers are unable to align students’ programs with their credit needs, the district can offer support.

g. How will we monitor the process and evaluate its success?

By keeping the student programming data in a collaborative system, the alignment between need and reality is immediately transparent, allowing for quick intervention within the school and with support of the district. The reduction of programming gaps, and the proportion of needs met by the current student programs, can be calculated with each programming change. Furthermore, this proportion can be compared across schools with similar needs to elicit which schools have been the most successful at meeting student need, allowing for a more-informed sharing of practices.

4. Results/Impact

The 2013-14 school year has in many ways been a transition for New Visions to a far more rigorous way of using and developing data systems, and we expect this rigor to ramp up further in the

next school year. From this year alone, however, we have shown that we can monitor progress and have an impact on the opportunities within a school for each of our students. For example, we believe our emphasis on retaking exams to achieve college readiness standards will lead our Class of 2014 to have a significantly higher percentage of college-ready graduates, as defined by CUNY, than all previous cohorts. In particular, we saw a 3.5 percentage point increase in students who meet the math standard in January of their fourth year as compared with the Class of 2013. As the math standard proves a larger barrier than ELA for our students, this will directly translate into hundreds of students going directly into credit-bearing classes during the freshman year of college, who a year ago would have been stuck in remediation.

The most significant change to our approach, however, has been the focus on student programming. For the first time in February 2014, we put into action our belief that a district can play a crucial supportive role in something as granular, time-sensitive and school-idiosyncratic as student programming.

a. Implementation

On February 8 2014, we collected data on all of our students, including what courses they had passed in the Fall and what they were now programmed for in the Spring. In the week prior, we had examined each of the 172,000 course code combinations appearing on student transcripts and assigned them to a specific graduation requirement— a necessary piece of information that has not been automated in New York City information systems. We therefore saw what students needed and what they were programmed for. By the following Monday, February 10, New Visions staff were in schools reviewing the programming gaps and supporting programmers to reschedule students.

Using spreadsheet-based tools specifically designed to support student programming, we were able to go through individual students in each of our schools and examine the potential misalignments. In some cases, what looked like a gap was the result of a student being too far behind to make up their ground fully in one semester, though they were making progress to meeting requirements; in other cases, the school's code deck contained errors, and we were able to identify and correct them. After a week of intensive work in schools, we repulled the data from the source systems to discover if any changes had been made.

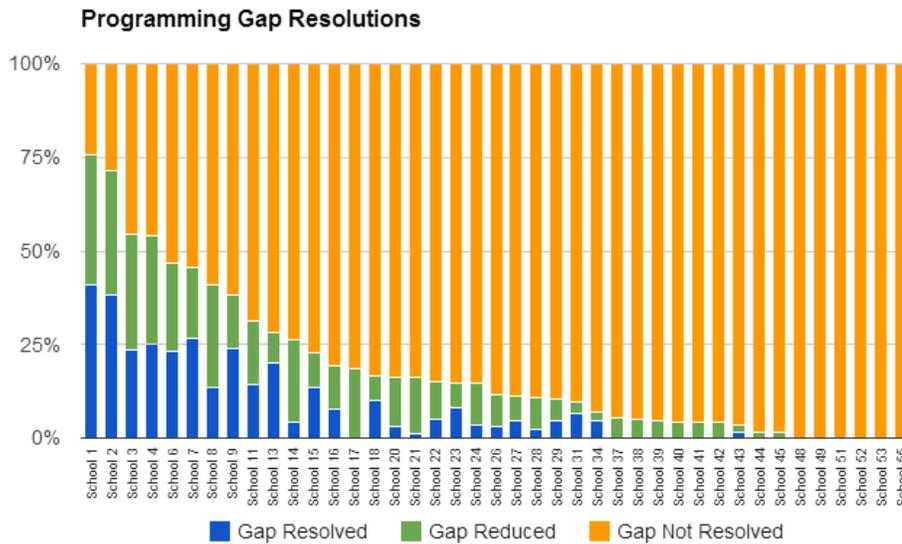
b. Successes

Because this was our first time building and rolling out the new data system, we had no baseline and little idea of what to expect. We knew some of our schools actively did their own reprogramming at the beginning of the semester, while others allowed the initial programs to persist. Across our four high school cohorts, we found 15,098 out of 37,442² students were programmed to come up short of their ideal credit totals by the end of the semester. This included students who were optimally programmed but too far behind to close the gap within one semester; students in schools with incomplete or inaccurate code decks; and students whose programs had not been optimized, with our focus on this third group of students.

By the time of our second data pull, 685 students with programming gaps had been reprogrammed to be on track; another 1,281 had been reprogrammed to make up more ground than their initial programs would have allowed. In total then, nearly 2,000 students had their programs improved over the course of that week, with the largest number of those coming from the Class of 2014.

This success rate is understated because as the process of reviewing students' historical course codes was potentially ambiguous, we made a conscious decision to be conservative and err on the side of false positives. If we incorrectly flagged a student, that flag could be resolved quickly by school staff; if we failed to flag somebody, however, that could lead to serious consequences for the student who missed the opportunity to get back on track. From a close examination of the data, however, we do know that at some schools, there were very real gaps that existed on February 8 that were closed by February 18.

² Some of our schools were dropped from the analysis due to incomplete programs during the initial data pull.



c. Challenges

In our first effort to support school programming as the programs were being made, we can point to tangible changes in the schools and link those changes to the actions of our staff, empowered by our data. But we can also easily see how this process could have been improved, and we are using this reflection in preparation for next year.

Better targeting

Our first effort at reprogramming flagged numerous students as having programming gaps where none may have existed, due to anomalies in student transcripts and school sequencing. We therefore do not know the true denominator of programs that needed to be changed. Over the Spring semester, we have clarified our business rules with schools and will have fewer false positives going forward.

From reactive to proactive

Schools used existing disparate data systems to create the initial programs, after which we evaluated the programs. By moving to a more proactive strategy, we can support schools ahead of time by highlighting students’ highest need credits as soon as the previous term ends. We can even analyze interim data before the previous term ends to anticipate what the likely needs will be.

Increased frequency

We updated our tools twice within 10 days; this represented a significant step forward with regards to responsiveness for us, but it is still far too slow. During programming, our tools need to be constantly updated to take daily program changes into account.

Smart programs

We defined success as students being in a course where they could earn the credit they need; we did not take into account the likelihood of earning that credit. And initially, we were more focused on students getting back on track than on pushing students already on track to higher levels of rigor. Further information on the students and teachers would allow us to make smart matches and give students the best possible chance for success.

The 1,966 students whose programs improved through the first run of this project have a better chance of graduating on time than they would have had with their original programs. Whether they are able to earn those needed credits, and whether New Visions is able to support their effort to do so, is being examined right now. While there is still space to improve, we now are able to confirm what before we had only assumed: engagement in granular student progress is an attainable goal for a district, and with the right data management solution, we can eliminate the missed opportunities that have led thousands of our students to miss their goal of four year graduation.

III. Lessons Learned

A. Develop data capture, process, and storage requirements through iterative and incremental use case conversations with schools.

Developing a data infrastructure without first clarifying analytic and end-user needs is a recipe for failure. Discussing specific use cases rather than what schools hope to get out of the system will more effectively surface unspoken user needs. A good starting point may be asking schools to send you examples of how they are using data and reports they are building internally. After familiarizing yourself with these examples and identifying common needs, you'll be able to use input conversations to understand detailed process needs: how they create the report, who interacts with the report and when, which features are required vs. "nice to have", and what improvements they would like to make to the report. These conversations will inform what data you need to collect, how you will ensure your data is high integrity, how the data need to be structured, and how up-to-date it needs to be.

While these outcome-driven conversations will help you to gather solid baseline requirements, your process and timeline should also allow for further iteration. Once you put tools in schools' hands and allow them to examine data, more needs and requirements will surface. During the development process, no one can identify every requirement and so you must plan for multiple rounds of input. Conducting a second round of input using data tool or analysis prototypes while you are in the process of building out your data infrastructure will allow you to get additional input from schools and refine your data infrastructure plans before they are too far along.

B. With the right tools, district staff can understand a school well enough to support meaningful decision-making at the student level.

A poor data management system obscures the truth, leading people to debate reality and ultimately rely on intuition rather than evidence. In contrast, a collaborative and up-to-date system can allow district staff to have meaningful conversations with school leaders leading to concrete change in the school. The biggest lesson learned has been that creating this system is possible. Rather than spending time processing data, we can spend our time strategizing with the data, co-creating action plans with school leaders and then monitoring their implementation and efficacy. The results of these strategies can be identified and measured as they are implemented, rather than waiting for the end of the term to perform a summative analysis.

While such a system is possible, it is not simple. It must be tuned exactly to the educators' needs. In the New Visions student program project example, the raw data was substantially improved by classifying the courses more granularly, matching the graduation requirements; but New Visions also introduced delays by including many false positives, based on ambiguous codes. Our code classification needs to learn so that we are able to improve our identification accuracy, allowing a greater focus on the students who need support. We must also be faster; our most advanced schools update their programs daily at the beginning of a term, and our tools must match that rate. Finally, when asking schools to use tools and think differently about data, we cannot simply create the tools and send them off to schools; the adoption is low and the feedback loop nearly non-existent. Accordingly, our research and tool-development staff will be working closely with individual schools in the upcoming year to support the use of tools for programming, attendance and interventions.

IV. References

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V. Appendices

Appendix A

A.1: AF's Promotion Policies

The following are AF's *mandatory* and *additional* (non-mandatory) promotional criteria.

Mandatory Promotion Criteria

*The school will consider a student who fails to meet **ANY** of the following criteria to be at risk of non-promotion. The principal has final authority to make promotion decisions based on a scholar's readiness for the next grade.*

State and Other Test Scores (K-12)

For Kindergarten – 2nd Grade Students: Below grade level on nationally normed reading assessment as determined by Achievement First

In Grades 3 – 8: Score of 1 on any ELA, Math or Writing state test

In Grades 9 – 12: In NY, score below 75% for ELA and Algebra and 65% for all other required Regents exams

Attendance (K-12)

15 or more absences in a year (5 tardies and/or early dismissals count as one absence); there is no differentiation between excused and unexcused absences.

Course Grades (5 – 8)

Failing two or more of the following classes: math, reading, writing, history, and science

Course Grades (9 – 12)

Failing two or more core/required class (math, reading, writing, history, science, college readiness, required elective) after the summer academy session is over **OR**

Being deficient two credits from any year of high school upon entering the grade.

Summer Program Completion (9 – 12)

Successful completion of an AF-approved summer program

- Pre-College
- Internship
- Growth program
- Summer Academy and/or SAT Boot Camp

Additional Non-Promote Criteria:

Kinder to 2nd Grade

- The student scores below the 50th percentile or above on the TerraNova math exam
- The student scores below the 50th percentile or above on the DRP reading assessment
- The student scores 79 or lower on IA #5 in math
- The student scores 69 or lower on IA #5 in reading

Grades 3 – 8

- NY: Score of a “low 2” (defined by AF’s scaled score chart) on both NY state tests
- CT: Score of a “low 2” (defined by AF’s scaled score chart) on two of the three (math, reading, writing) state tests
- A student scored a 2 on the state test for two straight years in either math or reading (NY) or any of reading, writing, or math (CT)

Interim Assessments

Grades 3 – 8

- The student scored 59 or lower on IA #5 in MATH in the student’s first year at an AF school, 64 or lower in a student’s second year at an AF school, or 69 or lower in student’s third year at an AF school
- The student scored 59 or lower on IA #5 in READING in the student’s first year at an AF school, 64 or lower in a student’s second year at an AF school, or 69 or lower in student’s third year at an AF school

Final Grades

Grades 3 – 8

- The student’s final grade in MATH class is lower than a 70
- The student’s final grade in READING class is lower than a 70
- The student’s final grade in WRITING class is lower than a 70
- The student’s final grade in HISTORY class is lower than a 70
- The student’s final grade in SCIENCE class is lower than a 70

Promotion for English Language Learners (ELLs):

NY State law and CT State law require that we evaluate the promotion of English Language Learners differently.

NY State

- Grades K-7: ELLs who have been enrolled in school in the United States for 2 years or fewer are exempt from the ELA test. Instead, they must show satisfactory progress (move up one proficiency level in reading, writing, speaking, and listening) on the NYSESLAT. For mathematics, they must score a Level 2 in English or their native language.
- Grade 8-12: ELLs who have been enrolled in school in the United States for less than 1 year have a 1 year exemption for the ELA test, but must show satisfactory progress on the NYSESLAT. For mathematics, they must score a Level 2 in English or their native language.
- Grades K-8: ELLs who have been enrolled in the United States from 2-6 years must show satisfactory progress (defined above) in English as a Second Language on the NYSESLAT OR

achieve a Level 2 on the state ELA test. For mathematics, they must score a Level 2 in English or in their native language.

- Grade 8-12: ELLs in 8th grade and beyond who have been enrolled in the United States for more than 1 year but fewer than 4 years must show satisfactory progress on the NYSESLAT OR achieve a Level 2 on the state ELA test. For mathematics, they must score a Level 2 in English or in their native language.

- In NY, a student must test out of ELLs status in order to graduate from High School and parents are not allowed to exempt their students from ELLs status.

** Limited English proficiency may not be the sole basis for retention*

CT State

- If the ELL student has enrolled for the first time in a U.S. school and has attended for fewer than 12 calendar months, the student MAY be exempted from the reading and writing portions of the Connecticut Mastery Test (CMT) or the Connecticut Academic Performance Test (CAPT).

To be eligible for a CMT/CAPT exemption, the student must be administered an appropriate language proficiency assessment (a component of the identification process) AND be identified in the Public School Information System (PSIS) as an English language learner. (12 calendar

months = a school entry date that is one year prior to the start of CMT/CAPT testing. For example, the March 2012 testing window begins on March 5, 2012, ELL students who entered a U.S. school for the first time after March 5, 2011 would be eligible for a CMT /CAPT exemption.)

- All ELL students must take the math and science portions of the CMT/CAPT regardless of how long they have been enrolled in a U.S. school.

- In CT, parents can exempt their students from ELLs programming. There is an exemption if a student enrolls with less than 30 months to graduation.

** Limited English proficiency may not be the sole basis for retention*

A.2: PID Version 2

Current & Customized: Data is updated nightly, and each reports indicates when the data was last updated. At the beginning of each school year, users can customize aspects of the report and save a custom view that they can return to throughout the year. This includes selecting the types of grades they would like to use and the specific courses they want to count towards the student failing course count.

Setup PID Report PID (Grade 9) PID (Grade 10) PID (Grade 11) PID (Grade 12) Course Grades Summary Network Summary Current Term Grades

Create PID Report

Last Updated: 12/10/2014 4:01:08 AM

Creating a PID Report for the first time?

- Select school
- AF Aenstad HS
 - AF Brooklyn HS
 - AF Hartford HS
 - AF University Prep HS

- Select type of projected grades
- Use posted grades only
 - Use in-progress grades when posted grades are not available

Now, navigate to the PID tabs (by grade) above to create your custom PID report!

Returning to view a saved PID report?

Access your saved report using the menu on the top left

Share Original View

Customize Report

Select PID Courses

(Multiple values) ▼

Set total # of school days
(used to calculate absence RPs)

190

Filter Report

SPED

(All) ▼

ELL

(All) ▼

Total Retention Points

0.00 50.00

Projected Fs

0 8

AF Absences

0.0 55.6

Customize Report

Select PID Courses

(All) ▼

- (All)
 - Algebra I
 - College Readiness I
 - Composition I
 - Dance
 - Debate
 - Global History I
 - Instrumental Ensemble
 - Literature I
 - Physical Education
 - Physics
 - Spanish I
 - Spanish II
 - Theater
 - Guided Reading
 - Intro to African Diaspora
 - Latin I
 - Leadership Seminar
 - Reading For Pleasure
 - Symphonic Ensemble
 - Vocal Ensemble
 - Yearbook
- Apply Cancel